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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,536	10/27/2000	Gregory G. Davis	245/090	6545

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EXAMINER

TORRES, MARCOS L

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 06/04/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,536

Applicant(s)

DAVIS ET AL.

Examiner

Marcos L Torres

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second mobile device must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Claims 1 and 2 are objected to because of the following informalities: Claims 1, 2 and summary of the invention discloses first and second mobile device, however detail specification and drawings only show one mobile device 30. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: uplink receiver that is distinct from itself.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist.

As to claims 1 and 2, Lundqvist discloses a method of locating mobile devices, the method comprising the steps of: determining times of arrival of a signal that originated from the first mobile device at each of at least three measurement units, locating a second mobile device by implementing the steps of determining times of arrival of signals that originated from each of at least three base stations at the second mobile device, and computing a location of the first mobile device based on the times of arrival (see page 5, line 5 – page 11, line 4). Lundqvist does not specifically disclose determining times of arrival of the signals that originated from each of the at least three base stations at the measurement units. However, the admitted prior art shows determining times of arrival of signals that originated from each of at least three base stations at the mobile device, determining times of arrival of the signals that originated from each of the at least three base stations at the measurement units, and computing a location of the mobile device based on the times of arrival determined (see fig. 2, page 2, line 23 – page 3, line 12). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for enhanced reliability.

As to claim 3, Lundqvist discloses a method of locating a mobile device, the method comprising the steps of: determining times of arrival of signals that originated from each of at least two base stations at the mobile device; determining times of arrival of the signals that originated from each of the at least two base stations at the measurement units (see page 5, line 5 – page 11, line 4). Lundqvist does not specifically disclose determining times of arrival of a signal that originated from the

mobile device at each of at least two measurement units. However, the admitted prior art shows determining times of arrival of a signal that originated from the mobile device at each of at least two measurement units (see fig. 2, page 2, line 23 – page 3, line 12). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for enhanced reliability.

Regarding claims 5 and 12, they are the corresponding system/apparatus claims of method claims 3. Therefore, claims 15 and 12 are rejected for the same reason shown above.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Morris.

As to claim 6, Lundqvist discloses everything claimed as explained above except for the system wherein the uplink processor and the downlink processor are implemented in an integrated device. Morris discloses the system wherein the uplink processor and the downlink processor are implemented in an integrated device (see col. 8, lines 11-54). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for reducing the size and having a space efficient system.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Hattey.

As to claim 7, Lundqvist discloses everything claimed as explained above except for the wherein the uplink processor and the downlink processor are implemented in discrete devices. Hattey discloses the wherein the uplink processor and the downlink

processor are implemented in discrete devices (see col. 6, lines 24-50). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for an easy upgradeable system.

11. Claims 10-11 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Fisher.

As to claims 10-11 and 16-17, Lundqvist discloses everything claimed as explained above except for the system/apparatus wherein each of the measurement units determines times of arrival for at least two different communication protocols and the two different communication protocols includes time division multiple access (TDMA) and global system for mobile communication (GSM) systems. Fischer discloses the system/apparatus wherein each of the measurement units determines times of arrival for at least two different communication protocols and the two different communication protocols includes time division multiple access (TDMA) and global system for mobile communication (GSM) systems (see col. 5, lines 28-33; col. 9, lines 7-29). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for enhanced versatility.

12. Claims 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Fox.

As to claim 4, Lundqvist discloses everything claimed as explained above except for the method wherein the computing step comprises the steps of: defining a first and second hyperbolas based on the times of arrival determined in the previous steps and

locating an intersection of the first hyperbola and the second hyperbola. Fox discloses the method wherein the computing step comprises the steps of: defining a first and second hyperbolas based on the times of arrival determined in the previous steps and locating an intersection of the first hyperbola and the second hyperbola (see col. 1, lines 37-50). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for the simple reason of enhanced precision.

As to claims 8 and 9, Lundqvist discloses everything claimed as explained above except for the system wherein each of the measurement units includes a dual mode uplink/downlink receiver. Fox discloses the system wherein each of the measurement units includes a dual mode uplink/downlink receiver (see col. 3, lines 49-60; col. 9, lines 13-16). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to add this teaching for enhanced reliability.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Larsson (6522887).

As to claim 15, Lundqvist discloses everything claimed as explained above except for the apparatus wherein the first signal comprises a random access channel (RACH) signal, and the second signal comprises a broadcast control channel (BCCH) signal. Fox discloses for the apparatus wherein the first signal comprises a random access channel (RACH) signal (see col. 1, lines 21-35). Larsson discloses the second signal comprises a broadcast control channel (BCCH) signal (see col. 7, lines 24-44).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for the simple reason of enhanced precision.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Law.

As to claim 13, Lundqvist discloses the apparatus wherein the receiver comprises a first receiver that notes the time of arrival of the first signal (see page 5, line 5 – page 11, line 4). Lundqvist does not specifically disclose a second receiver for a second signal, and wherein the first receiver is physically discrete from the second receiver. Law discloses a second receiver that notes the time of arrival of the second signal, and wherein the first receiver is physically discrete from the second receiver (see col. 3, line 15 – col. 4, line 40). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine both teachings for the simple reason of enhanced precision.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundqvist as applied to claims 1-3, 5 and 12 above, and further in view of Salinger.

As to claim 14, Lundqvist discloses the apparatus wherein the receiver comprises a first receiver that notes the time of arrival of the first signal (see page 5, line 5 – page 11, line 4). Lundqvist does not specifically disclose a second receiver for a second signal, and wherein the first receiver is integrated together with the second receiver. Salinger discloses a second receiver that notes the time of arrival of the second signal, and wherein the first receiver is integrated together with the second receiver (see col. 5, line 61 – col. 6, line 20). Therefore, it would have been obvious to

one of the ordinary skill in the art at the time of the invention to combine both teachings for the simple reason of space saving design.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Karr U.S. Publication US 20030146871A1
- b. Amirijoo U.S. Publication US 20010041575A1
- c. Dahlman U.S. Patent US006526039B1
- d. Rantalainen U.S. Patent US006665540B2
- e. Larsson U.S. Patent US006282427B1
- f. Duffett-Smith U.S. Patent US006529165B1
- g. Zadeh U.S. Patent US006385452B1
- h. Dent WIPO Publication WO 99/030181 A1

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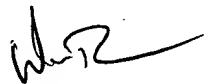
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcos L Torres whose telephone number is 703-305-1478. The examiner can normally be reached on 8:00am-5:30pm alt. friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William G Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marcos L Torres
Examiner
Art Unit 2683

Mlt



WILLIAM TROST
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